	900	10.000
Work	Order .	ID 106083

106083

Page 1

August-28-13 12:	41:23 PM										
Revision ID:	546.3110 CHANNEL	•		Accept	*N900	040	100)* s	etup Star Stop	IV	S1* ; S2*
Required Date: 8	3/28/13	Start Qty: 5.00 Req'd Qty: 5.00	*5* *5*	•	Cust Item I Customer:	D:					
	Process Plan	: MLJ	Date: \\\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \	-		ate:		R	tun Star Stop	1/1	R1*
Sequence ID/ Work Center ID		Operation Description		Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revi	sion Nbr	,								*6.*
646.3100	N/C										
100 *100* Bandsaw		BAND SAW		0.00	\$ 13-09	7-12		5	Ø		
Jeaspa Bandsaw		Memo Cut Blank a	it 15.00"	0.00	ŕ						
*110 *110* HAAS 1 HAAS CNC vertical n	nachine #1	HAAS CNC VERTICAI Memo 1-Machine DWG REV FOLIO REV	per folio FB145	0.00	13/09	12		5	_		08 08

2- deburr and break all sharp edges

NCR:	Yes	/	No

DQA:

Date:

NCR: Y	es / No				WORK ORDER NON-C	CONFOR	MANCE / UP	PDATE	QA Closed:	Date:	į.		
Work Orde	r·				DISPOSITION		<u>, , , , , , , , , , , , , , , , , , , </u>	AGAINST DE	PARTMENT	/PROCESS			
Part N					Rework Scrap		Skid-tube Machining	Crosstube Small Fab	4	Water Jet d. Eng. Coor.	Engineering Quality		
NCR N	o				Use-as-is Work Order Update	Thermoforming Finishir Large Fab Composi							
Root	Date	Step	Qty		ption of work order update or Non-conformance	Initial Chief Eng	l l	ction cription	Sign & Date	Verification	QC Inspector		
Cause Poc/Data quip/Tooling	Date	Step	Qty		or Non-comormance	Criter Eng	g Desc	cription	Date	Verification	QC IIISPECTOI		
perator Material													
etup Other													
rocess													
upplier raining Inapproved													
марриотеа		 	<u>. </u>		F	AULT CAT	EGORY						
Landin	g Gear				General						_		
	Bending Centre N Cracks	ot Conce	ntric to (o/s	Bend BOM/Route Broken/Damaged	Grain Hardw	are tion Incomplete		Ovalized Over/Under Part Incorre		Pressure/Forced Temperature/Cure Weld		
-	Crushed/	/Crimped			Burrs Contamination	Instru	ctions Incomplete, cenance	/Unclear	Part Lost/Mi	<u> </u>	Wrong Stock Pulled		
	Heat Tre		Tuhe		Countersink Cut Too Short	Mislah	eled		Positioned V		Other		
ŀ	Ripples in	-	TUDE,	. -	Drill Holes	Offset		1	1. 044-01 2033/		Touriet		
ļ	— · ·	Vaves in E	extrusion	,	Drawing	\vdash	Calibration						
[Turning S	Sequence			Finish	Out of	Sequence						
	Wave/Tv	vist in Tul	ре	1	Folio	Outsic	le Dimensions						

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Work Ord	er ID 10	6083		*11	റെറ	१२*		Pag				
August-28-13 1	2:41:23 PM											
Item ID: Revision ID:	646.3110			Accept	*/	19000	740	100)* s	etup Sta	1/1	S1*
Item Name:	CHANNEL									Sto	^p *N	S2*
Start Date:	8/28/13	Start Qty: 5.00	*5*			Cust Item II) :					
Required Date:	8/28/13	Req'd Qty: 5.00	*5*		•	Customer:						
Reference:			• •							~:		
Approvals:	Process Pla	an:	Date:	Tooling:		Dat	te:		R	tun Sta	1/	R1*
	QC:	- unkin v	Date:	SPC (Y/N):		Dat	te:			Sto	^P *N	R2*
Sequence ID/ Work Center I	 D	Operation Description		Set Up/ Run Hou	ırs	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120		QC2- Inspect parts off m	nachine FAI/FAIB	0.00	١.					/		(
120 QC Quality Control		Memo		0.00	2.0	13/09	12		5	_ \$		1 9 89 1 9 89
130		QC8- Inspect parts - sec	ond check	0.00	OAS	12 /60	110			,		
130 QC Quality Control		Memo		0.00	AS 44 9-89	13/09) 1°\		_S_	Ø		<u>.</u>
140		Outsource process-Anod	dize per QSI017 4.1.10.1	0.00					Λ	4121	19/20	~
140 Outsource4 Outsource process	- Anodize	Memo Issue P/O to	4 , 1 =	0.00					C	<u> </u>	7/20	<u>ں</u>
		1- Black Ar	nodize as per Dwg 646.3100)								

2- PRIME AS PER DWG, SEE NOTE #2
Certification of Comformity is required

		· //
DQA:	Date:	1 mm
DQA.	_ Date	
		-

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

	cs / 110									QA Closed:	Date	e:
Work Orde	r:	-			DISPOSITION				AGAINST DE	PARTMENT	_	
Part N	o				Rework Scrap	Skid-tube Crosstube Machining Small Fab Thermoforming Finishing			J	1	Water Jet	Engineering Quality Other
NCR N	0				Use-as-is Work Order Update] "		Large Fab	Composite	Rec/Stor	re/Packaging Supplier	
Root				Descri	ption of work order update	Initia	al	Acti	on	Sign &		
Cause	Date	Step	Qty	•	or Non-conformance	Chief I	Eng	Descri	iption	Date	Verification	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved												
	<u> </u>	.1	1 1	,	F	AULT C	ATE	GORY		L		<u> </u>
Landir	ng Gear				General							·
	Bending Centre Not Concentric to O/S Cracks Crushed/Crimped Cuffs Heat Treat Inspection Strip in Tube Ripples in Bend			D/S	Bend BOM/Route Broken/Damaged Burrs Contamination Countersink Cut Too Short Drill Holes	Grain Hardware Inspection Incomplete Instructions Incomplete/Unclear Maintenance Mislabeled Misread Offset			Inclear	Ovalized Over/Under Part Incorred Part Lost/Mi Part Moved Positioned V Power Loss/	ct ssing Vrong	Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled Other
[Torque V			, [Drawing	\vdash		Calibration				
	Turning S Wave/Tw			-	Finish Folio	_		Sequence Dimensions				

Work Ord August-28-13		6083		*106	Page 3								
Item ID: Revision ID: Item Name:	646.3110 CHANNEL			Accept	*/	1900	040	100)*	Setup St		'N.S	\$1* \$2*
Start Date: Required Date Reference:	8/28/13 :: 8/28/13	Start Qty: 5.00 Req'd Qty: 5.00	*5* *5*		Cust Item ID: Customer:								
Approvals:		an:	Date:	Tooling: _ SPC (Y/N):			ate:				top	NF NF	?1* ?2*
Sequence ID/ Work Center I 150 *150* Packaging	ID	Operation Description Receive & Inspect for D Memo	amage & Mat'l Certs	Set Up/ Run Hours 0.00		Tool ID	Tool#	Plan Code	Accept Qty	Reject Qty			Insp. Stamp
155 *155* QC Quality Control		QC5- Inspect part comp Memo	leteness to step on W/O	0.00 DAS 0.00 27 9-89					5				
180		Identify as per dwg & St	ock Location:	27 0 .00					5 v				Dqo

0.00

IDENTIFY AS PER APICAL MPP-120 BY STAMPING P# AND REV

Memo

180 Packaging

Packaging

13-10-7.

											DQA:	Date	:
NCR:	⁄es	/ No				WORK ORDER NON-C	100	NFORM	MANCE / UP	DATE	QA Closed:	Date	
													•
Work Orde	er:					DISPOSITION				AGAINST DE	PARTMENT	PROCESS	
Part N	- - No.				· · · · · · · · · · · · · · · · · · ·	Rework Scrap Use-as-is		f Therm	Skid-tube Machining noforming	Crosstube Small Fab Finishing	4	Water Jet d. Eng. Coor. re/Packaging	Engineering Quality Other
NCR N	٠. م ا					Work Order Update	J		Large Fab	Composite	j	Supplier	
Root					Descri	ption of work order update	ī	nitial	Act	tion	Sign &		
Cause		Date	Step	Qty	(or Non-conformance	Ch	ief Eng	Desc	ription	Date	Verification	QC Inspector
Doc/Data													
Equip/Tooling													
Operator													
Material	Ш	•											
Setup	Ш												
Other	Ш												
Process													
Supplier	Ц												
Training	Ш												
Unapproved													
							AUL	T CATE	GORY				
Landi						General	_	1			7	_	7
	—	Bending				Bend		Grain		<u> </u>	Ovalized	<u> </u>	Pressure/Forced
		Centre No	ot Concer	ntric to	o/s _	BOM/Route		Hardwa			Over/Under	h	Temperature/Cure
İ		Cracks			<u> </u>	Broken/Damaged	-	1	on Incomplete	<u> </u>	Part Incorred	—	Weld
	-	Crushed/0	Crimped		\vdash	Burrs	<u>_</u>	1	ions Incomplete/	Unclear	Part Lost/Mi	ssing	Wrong Stock Pulled
_	-	Cuffs				Contamination	\vdash	Mainte			Part Moved		
·2		Heat Trea				Countersink	<u></u>	Mislabe			Positioned V		- .
·	\vdash	Inspection		Tube	<u> </u>	Cut Too Short	-	Misread			Power Loss/	Surge	Other
	-	Ripples in				Drill Holes	-	Offset					
	1 [Torque W	aves in E	xtrusio	n	Drawing		Out of C	Calibration				

Out of Sequence

Outside Dimensions

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Turning Sequence

Wave/Twist in Tube

Finish

Folio

Work Ord August-28-13		6083		*106					Page 4				
Item ID: Revision ID: Item Name: Start Date:	646.3110 CHANNEL 8/28/13	Start Qty: 5.00	*5*	Accept	*N900		100)*	Setup	Start Stop	IV	14.71	
Required Date: 8/28/13 Req'd Qty: 5.00			*5*		Customer:								
Reference:			. ,							~ .			
Approvals:	Process Plan:QC:		Date:	Tooling: SPC (Y/N):	Date:				Run	Start	*NR1*		
			Date:		D :	ate:				Stop	*N	*NR2*	
Sequence ID/ Work Center I	D	Operation Description		Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Re Ot	ject y	Reject Number	Insp. Stamp	
190		QC21- Final Inspection -	Work Order Release	0.00					://	Om	13/10	2/12	
190 QC Quality Control		Memo		0.00					<u> </u>	<u> </u>	13/10 13	W 10-05	

										DQA:	Dat	:e:	
NCR: Y	es	/ No			WORK ORDER NON-	COI	NFORM	MANCE / UPI	DATE	QA Closed:	 Dat	:e:	
Nork Orde	r·			<u>.</u>	DISPOSITION				AGAINST DE				
Part N	-		· · -		Rework Scrap Use-as-is		ľ	Skid-tube Machining	Crosstube Small Fab Finishing	4	Water Jet d. Eng. Coor. e/Packaging		neering Quality Other
NCR N	io				 Work Order Update]		Large Fab	Composite		Supplier		·
Root Cause		Date	Step	Qty	iption of work order update or Non-conformance		Initial nief Eng	Act Descr	ion iption	Sign & Date	Verification	n QC	Inspector
oc/Data quip/Tooling perator Material etup other rocess upplier raining													
			!. <u></u>			FAUL	T CATE	GORY					,
Landir	_				General		•	<u></u>					
	Bending Centre Not Concentric to O/S Cracks Crushed/Crimped Cuffs Heat Treat Inspection Strip in Tube Ripples in Bend Torque Waves in Extrusion Turning Sequence BOM/Route BOM/Route Bond Contamination Countersink Cut Too Short Drill Holes Drawing Finish					Instruct Mainte Mislabe Misread Offset Out of C	ion Incomplete ions Incomplete/L enance eled	Jnclear	Ovalized Over/Under Part Incorred Part Lost/Mider Part Moved Positioned Website Power Loss/S	ssing Vrong	Tempe Weld	re/Forced rature/Cure Stock Pulled	
	_	Wave/Tw			Folio		1	Dimensions					

August-28-13 12:41:22 PM

Work Order ID:

106083

Parent Item:

646.3110

Parent Item Name:

CHANNEL

Start Date: 8/28/13

Required Date: 8/28/13

Start Qty: 5.00

Required Qty: 5.00

_				
Co	m	me	nt	e.

IPP REV:A NEW ISSUE 12-10-24 JLM VERIFIED BY:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M7075T6B1.500X1.500 7075 T6 BAR 1.500 x 1.50	00	Purchased	No				f	18.6170	6.	6.5789475 305		H13-	09-12
				Location		Loc Oty	<u>Lo</u>	c Code					
				MAT049		18.617							

										DQA:	Date			
NCR: Y	res / N	lo			WORK ORDER NON-	COI	NFOR	MANCE / UPDATE		·				
		 								QA Closed:	Date			
Work Orde	o ė				DISPOSITION	DISPOSITION AGAINST				DEPARTMENT/PROCESS				
WOIK OIGE					Rework	7	l	Skid-tube Crosst	ube	7	Water Jet	Engineering		
Part N	No.				Scrap	1		Machining Small		Pro	d. Eng. Coor.	Quality		
					Use-as-is	1		noforming Finish		4	e/Packaging	Other		
NCR N	No.				Work Order Update	1		Large Fab Compo	site		Supplier			
			·		-									
Root					ption of work order update		Initial	Action		Sign &	ř			
Cause	Dat	e Step	Qty		or Non-conformance	Cr	nief Eng	Description		Date	Verification	QC Inspector		
Doc/Data								,						
Equip/Tooling														
Operator	Ш	İ												
Material														
Setup								:						
Other	Щ													
Process						1								
Supplier	$\vdash\vdash$					1								
Training														
Unapproved	<u> </u>		<u>. I</u>	<u> </u>		<u> </u>	T CATE	GORY			<u> </u>			
Landi	ng Gear				General	70.	LICAIL	JONT						
Lana	Bend	ng			Bend		Grain		Г	Ovalized	Γ	Pressure/Forced		
		e Not Conce	entric to	o/s	BOM/Route		Hardwa	ire	F	Over/Under	tolerance	Temperature/Cure		
	Crack				Broken/Damaged		-1	ion Incomplete		Part Incorred	<u> </u>	Weld		
	—	ed/Crimped	i		Burrs		4	ions Incomplete/Unclear		Part Lost/Mi	ssing	Wrong Stock Pulled		
	Cuffs	,			Contamination		Mainte	enance		Part Moved	_	-		
	Heat	Treat			Countersink	Mislabeled				Positioned V	/rong			

Misread Offset

Out of Calibration

Out of Sequence

Outside Dimensions

Power Loss/Surge

Other

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Inspection Strip in Tube

Torque Waves in Extrusion

Cut Too Short

Drill Holes

Drawing

Finish

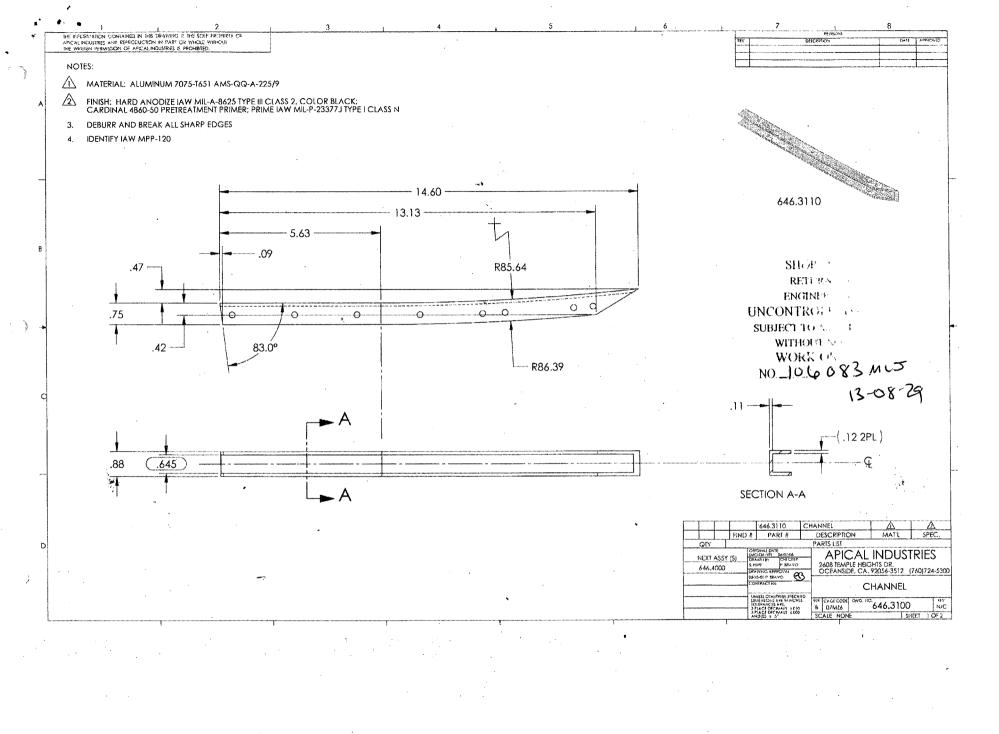
Folio

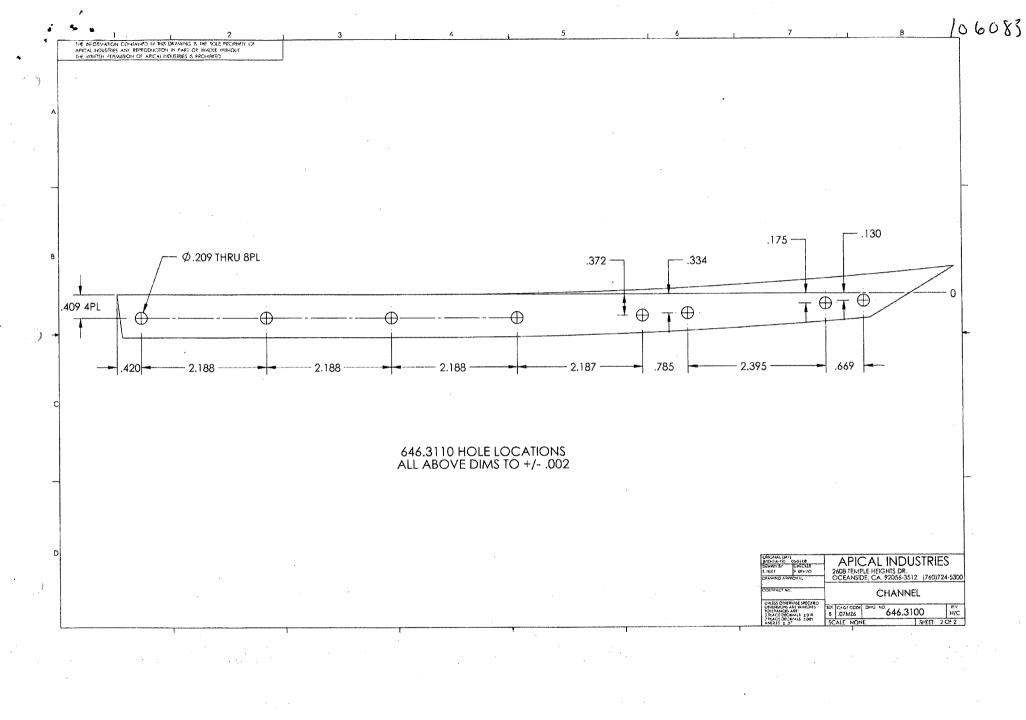
DART AEROSPACE LTD Work Order: / () (Description: CHANNEL Part Number: (。以ら Inspection Dwg: らりら Rev: N に Pa	106083
Part Number:	646.3110
	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
14.60	+1010	14.597	/		H-6	31006
13.13	+/010	13.130	~		H	ı)
0.09	+ 1010	6.087	1		ft	N.
0.47	+1010	0.480	1		£(/!
0,75	4/010	0.752			Veco	6A-01
830	4/50	830	~		Frale M	CNC-02
0.88	+/010	0.873	1		Vera	GA-01
0.645	+005	0.646	/		1)	(1
0.11	41010	0.112	1		- 6	()
0.12	41010	0.114	1		(1	4
\$ 0.209	+.005 001	0.210	1		11	111
0.409	+/-:002	0410	1		Dial and.	HAASH
0.420	+/002	0.420	/		'H-6	31006
2.188	+1002	2.186	/		4	í,
2.188	+1002	2.187	1		ly .	4
2.188	+1002	2.187			(1	\$r
Z.187	+1002	2.187	√		ц	47
0.785	+1002	0.785	~		le	11
2.395	+/002	2.394	/		q	Ŋ
0.669	+1002	0,669	~		11	TO S
0.372	+1002	0.373	✓		Dialind.	HAASLI
0.334	+1002	6.335	~		H	10
0.175	+1002	0:176	✓		И	ų
0.130	+1007	0.13	V	OAS	1)	(1
Measured by:	13 mls 08	Audited by:	2 My	44	Preliminary A	oproval:

Rev	Date	Change	Revised by	Approved
Ε	10.04.14	Added preliminary approval	KJ	







A.T.G. Industries Inc. 731, rue Industrielle Rd. PLATING DEPARTMENT Rockland, On K4K 1T2 Canada

Ph: (613) 446-4544 Fax: (613) 446-4556

Pack List

Number: 62663

Date: 04-Oct-13

То

DART AEROSPACE LTD 1270 ABERDEEN ST. HAWKESBURY, ON K6A 1K7 Canada Ship To

DART AEROSPACE LTD 1270 ABERDEEN ST. HAWKESBURY, ON K6A 1K7

Canada

Ph: 613-632-5200

Fax: 613-632-1185

Ph: 613-632-5200

Fax: 613-632-1185

s			613-632-5200	Fax: 613-632-1185
.		Ship Via		
uantity	Description	<u>.</u>		
1	Part: ASST		Rev:	
lot	•		1.00.	
(5 PCS 646.3110			
	5 PCS 646.3311			
	5 PCS 646.9710			
	4 PCS 647.9613			
	2 PCS D4838-1			
	2 PCS D4838-2			
	HARD ANODIZE BLACK			
	MIL-A-8625 TYPE III CLASS 2			
	· ·			
	PRIME MIL-P-23377J TYPE I CLAS			
	Job: 20130621	PO: PO21431	Line:	
	Certificate of Con-	formance		
	A.T.G. Industries certifies that all items i	n this shipment are in co	nformance	
	with all requirements, specifications and	drawings referenced in	the purchase order.	
	ISO 9001 : 2008 REG	SISTERED		
	ATG SALES-2010 TE	RMS APPLY		
	DATE: 4/10/13			
	3,112.			
	m			
-	CERTIFIED SIGNATURE :			
	1.			
	RECEIVER SIGNATURE :			
		•		



A.T.G. Industries Inc. 731, rue Industrielle Rd. PLATING DEPARTMENT Rockland, On K4K 1T2 Canada

Ph: (613) 446-4544 Fax: (613) 446-4556

Pack List

Number: 62663

Date: 04-Oct-13

То

DART AEROSPACE LTD 1270 ABERDEEN ST. HAWKESBURY, ON K6A 1K7 Canada Ship To

DART AEROSPACE LTD 1270 ABERDEEN ST. HAWKESBURY, ON K6A 1K7

Canada

Ph: 613-632-5200

Fax: 613-632-1185

Ph: 613-632-5200

Fax: 613-632-1185

ms		Ship Via		
			H	
Quantity	Description			 ***
1	Part: ASST		Rev:	
lot				
(5 PCS 646.3110 5 PCS 646.3311			
	5 PCS 646.9710			
	4 PCS 647.9613			
	2 PCS D4838-1			
	2 PCS D4838-2			
	HARD ANODIZE BLACK			
	MIL-A-8625 TYPE III CLASS 2			
	PRIME MIL-P-23377J TYPE I	N 488 N		
	Job: 20130621	PO: PO21431	Line:	
	Continue			
		Conformance		
	A.T.G. Industries certifies that all it with all requirements, specification	ems in this shipment are in co s and drawings referenced in t	nformance he purchase order.	
	ISO 9001 : 2008	REGISTERED		
	ATG SALES-20	0 TERMS APPLY		
	DATE: 4/10/13			
		4.		
*	CERTIFIED SIGNATURE :			
	RECEIVER SIGNATURE :			
	THE SERVER OF TH			
			•	
	h			